

CLAIMS

What is claimed is:

1. An optical pickup for use with a disc, comprising:
 - a blade on which an objective lens is mounted and which is movably supported with respect to a holder by an elastic support;
 - a focus coil and a tracking coil mounted on the blade;
 - a magnet generating an electromagnetic force driving the blade in focusing and tracking directions of with respect to the disc, the electromagnetic force generated by current flowing through at least one of the focus and tracking coils;
 - wherein the magnet is displaced a predetermined distance from a center line of the blade such that the electromagnetic force acts on the blade asymmetrically.
2. The optical pickup of claim 1, wherein the magnet is displaced in a radial direction of the disc toward the outer circumference of the disc.
3. An optical pickup for use with a disc, comprising:
 - a blade on which an objective lens is mounted;
 - a plurality of elastic lens supports movably supporting the blade with respect to a holder;
 - a focus coil and a tracking coil mounted on the blade;
 - a magnet generating an electromagnetic force driving the blade in focusing and tracking directions of the disc, the electromagnetic force generated by current flowing through the focus and tracking coils;
 - wherein at least one of said the plurality of elastic supports has a level of stiffness different from at least one other one of said plurality of elastic supports such that the blade tilts around an axis of the blade as the blade moves in the focusing direction.
4. The optical pickup of claim 3, wherein the plurality of elastic supports are arranged such that at least one of the plurality of elastic supports close to the outer circumference of the disc is relatively less stiff than another one of said plurality of elastic supports close to a center of the disc.

5. A method of assembling an optical pickup, the method comprising:

preparing an optical pickup assembly which includes a blade on which an objective lens is mounted and which is movably supported with respect to a predetermined holder by an elastic support, a focus coil and a tracking coil mounted on the blade, a magnet generating an electromagnetic force induced by current flowing through at least one of the focus and tracking coils to drive the blade in at least one of focusing and tracking directions of a disc, and adjusting a position of the magnet by applying a force to the magnet.

6. The method of claim 5, wherein, in adjusting the position of the magnet, the magnet is moved in a radial direction of the disc toward the outer circumference of the disc.

7. The method according to claim 6, wherein the force is applied to the magnet using a jig configured to hold two opposite ends of the magnet.

8. A method of assembling an optical pickup, the method comprising:

preparing an optical pickup assembly which includes a blade on which an objective lens is mounted and which is movably supported with respect to a predetermined holder by an elastic support, a focus coil and a tracking coil mounted on the blade, a magnet generating an electromagnetic force induced by current flowing through at least one of the focus and tracking coils to drive the blade in at least one of focusing and tracking directions of a disc; and

providing a plurality of elastic supports each having level of stiffness different from the other said plurality of elastic supports such that the blade tilts around an axis of the blade as the blade moves in the focusing direction.

9. An optical pickup comprising:

a blade on which an objective lens is mounted and which is movably supported with respect to a holder;

a focus coil and a tracking coil mounted on the blade;

a magnet generating an electromagnetic force driving the blade in at least one of focusing and tracking directions of a disc, the electromagnetic force generated by current flowing through at least one of the focus and tracking coils;

a support unit supporting the blade to tilt around an axis of the blade as the blade moves in the focusing direction.

10. An optical pickup comprising:
a blade on which an objective lens is mounted and which is movably supported with respect to a predetermined holder;
a focus coil and a tracking coil mounted on the blade;
a magnet generating an electromagnetic force driving the blade in at least one of focusing and tracking directions of a disc, the electromagnetic force generated by current flowing through at least one of the focus and tracking coils;
a unit forcibly moving the blade to tilts around an axis of the blade as the blade moves in the focusing direction.

11. A method of moving a blade of an optical pickup in a focus direction with respect to the disc, the method comprising:
applying a predetermined amount of force at one end of said blade; and
applying a greater amount of force than the predetermined amount at an opposite end of said blade, to asymmetrically move the blade to compensate for a deflection error of the disc.

12. An optical pickup comprising:
a blade on which an objective lens is mounted and which is movably supported with respect to a holder;
a focus coil and a tracking coil mounted on the blade;
a magnet generating an electromagnetic force driving the blade in at least one of focusing and tracking directions of a disc, the electromagnetic force generated by current flowing through at least one of the focus and tracking coils;
wherein said blade is configured to tilts around an axis thereof.

13. An optical reproducing and recording apparatus comprising:
a turntable on which a disc is seated;
a motor to rotate the turntable; and
an optical pickup to reproduce information from and recording information on the disc;
the optical pickup comprising:
a blade on which an objective lens is mounted and which is movably supported with respect to a holder by an elastic support;
a focus coil and a tracking coil mounted on the blade;

a magnet generating an electromagnetic force driving the blade in focusing and tracking directions with respect to the disc, the electromagnetic force generated by current flowing through at least one of the focus and tracking coils;

wherein the magnet is displaced a predetermined distance from a center line of the blade such that the electromagnetic force acts on the blade asymmetrically.

14. The optical reproducing and recording apparatus of claim 13, wherein the magnet is displaced in a radial direction of the disc toward the outer circumference of the disc.

15. An optical reproducing and recording apparatus comprising:

a turntable on which a disc is seated;

a motor to rotate the turntable; and

an optical pickup to reproduce information from the recording information of the disc,

the optical pickup comprising:

a blade on which an object lens is mounted;

a plurality of elastic lens supports movably supporting the blade with respect to a holder;

a focus coil and a tracking coil mounted on the blade;

a magnet generating an electromagnetic force driving the blade in focusing and tracking directions of the disc, the electromagnetic force generated by current flowing through the focus and tracking coils;

wherein at least one of the plurality of elastic supports has a level of stiffness different from at least one other one of the plurality of elastic supports such that the blade tilts around an axis of the blade as the blade moves in the focusing direction.

16. The optical reproducing and recording apparatus of claim 15, wherein the plurality of elastic supports are arranged such that at least one of the plurality of elastic supports close to the outer circumference of the disc is relatively less stiff than another one of said plurality of elastic supports close to the center of the disc.